Gravatt, Dan

From:

Tapia, Cecilia

Sent:

Thursday, April 17, 2014 9:22 PM

To:

anderson@recycleworlds.net

Cc:

Woolford, James; Deitz, Randy; Carey, Curtis; Hammerschmidt, Ron; Hatch, Sarah; Sanders,

LaTonya; Field, Jeff; Gravatt, Dan; Carey, Curtis

Subject:

RE: Report on West Lake-Bridgeton Landfill Fire - response to question

Attachments:

MDNR Rad Survey - 5-16-13.pdf

Mr. Anderson, the MDNR took dust samples for alpha and beta in May of 2013. Their report is posted on their web site. I've attached a copy for your convenience. Results from the dust swipe samples were consistent with background readings of their empty instrument tray.

As part of the isolation barrier construction, EPA plans to conduct air sampling off-site for alpha, beta, and gamma radiation, radon, and landfill gases. The PRP group will also be taking air samples on-site and at the fence line. We expect to begin the installation of the EPA monitoring network in May.

Sincerely,



· Cecilia Tapia Director, Superfund Division U.S. Environmental Protection Agency - Region 7 11201 Renner Blvd. Lenexo, KS 66219

Phone: (913)551-7733 Cell: (913)449-4171

Email: tapia.cecilia@epa.gov

The information to this count and many of its attachments is confidential and may be privileged. If you are not the unended eccipient, please destroy t massage (La información consenda en este mensão electroir ou cinâmicas de un meso es contidencial y puote ser privilegiuls. Si mént no es el destructions, per favor destruya este memorie. I

From: Peter Anderson [mailto:anderson@recycleworlds.net]

Sent: Monday, April 14, 2014 5:37 PM

To: anderson@recycleworlds.net; Tapia, Cecilia

Cc: Woolford, James; Deitz, Randy; Carey, Curtis; Hammerschmidt, Ron; Hatch, Sarah; Sanders, LaTonya; Field, Jeff

Subject: RE: Report on West Lake-Bridgeton Landfill Fire - Cover Transmittal Letter and Report

Importance: High

I am writing again to make sure that you received our question in our email of April 4th (below). This matter is of enormous importance to those who live in the vicinity of the landfill and would greatly appreciate the courtesy of an answer. If measurements are being taken for gamma radiation, while the fugitive radioactive gases are alpha emitters, for example, the results provided will be of little solace.

Thank you again for your concern.

Peter

From: Peter Anderson [mailto:anderson@recycleworlds.net]

Sent: Friday, April 04, 2014 9:26 AM

To: 'Tapia, Cecilia'

Cc: 'Woolford, James'; 'Deitz, Randy'; 'Carey, Curtis'; 'Hammerschmidt, Ron'; 'Hatch, Sarah'; 'Sanders, LaTonya'; 'Field,

Superfund

0714

Ou-01

3.0

Jeff'

Subject: RE: Report on West Lake-Bridgeton Landfill Fire - Cover Transmittal Letter and Report

Thank you very much for your note.

Might I ask whether I understand you to say EPA7's position is that the current air monitoring protocols are appropriate and adequate for the protection of public health to detect the release of alpha emitting particles from the Bridgeton Landfill?

Peter Anderson

From: Tapia, Cecilia [mailto:Tapia.Cecilia@epa.gov]

Sent: Friday, April 04, 2014 8:36 AM **To:** anderson@recycleworlds.net

Cc: Woolford, James; Deitz, Randy; Carey, Curtis; Hammerschmidt, Ron; Hatch, Sarah; Sanders, LaTonya; Field, Jeff

Subject: FW: Report on West Lake-Bridgeton Landfill Fire - Cover Transmittal Letter and Report

Importance: High

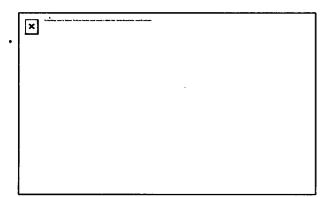
Dear Mr. Anderson:

Thank you for supplying material to this agency on March 24, 2014. Assistant Administrator for Solid Waste and Emergency Response Mathy Stanislaus has asked Region 7 to acknowledge receipt because this Region leads the Environmental Protection Agency's oversight of work by the PRP group at the West Lake Landfill. The EPA's team to evaluate remedial options for addressing the site also includes colleagues at agency Headquarters and the Office of Research and Development (ORD), as well the United States Geological Survey. In the near term, the EPA is ordering the PRP group to construct an isolation barrier to separate the West Lake OU-1 radiologically impacted material, resulting from disposal of leached barium sulfate, from the Bridgeton solid waste landfill.

Your material seemed to express your concern with airborne release of radioisotopes. An intensive sampling and monitoring program around this NPL site by the State of Missouri includes daily gamma samples as well as samples for alpha and beta emissions. To date, this monitoring effort has observed no detections above background levels. The Missouri Department of Natural Resources regularly publishes this monitoring information on their web site. This scientific data should help the community properly consider your opinions regarding potential human health impacts.

This agency will appropriately consider the information provided in your March 24, 2014, submittal as we continue to evaluate options for addressing the West Lake Landfill site.

Sincerely,



From: Stanislaus, Mathy

Sent: Tuesday, March 25, 2014 6:59:35 AM

To: Brooks, Karl

Cc: Woolford, James; Breen, Barry; Natarajan, Nitin

Subject: Fw: Report on West Lake-Bridgeton Landfill Fire - Cover Transmittal Letter and Report

From: Peter Anderson anderson@recycleworlds.net>

Sent: Monday, March 24, 2014 5:02:50 PM

To: Stanislaus, Mathy

Subject: FW: Report on West Lake-Bridgeton Landfill Fire - Cover Transmittal Letter and Report

This concerns the underground fire at the Bridgeton Landfill, north of St. Louis, that is presently volatizing and releasing diffused radium isotopes migrating into the South Quarry from the adjoining West Lake Landfill, which is on the NPL, where the radioactive wastes were illegally dumped in 1973.

The tragedy is unfolding in slow motion and has been undetected because the instruments deployed to detect the invisible and odorless radioactivity only measures gamma, not the alpha radiation emitted by Ra-226.

You may recall having visited the site four years ago, when you properly re-opened the do nothing 2008 ROD for further analysis.

We bring this update of how badly conditions have deteriorated since then, because the Administration needs to be aware that Region 7 has lost all credibility in Missouri in what is now becoming the worst landfill disaster in US history.

The likelihood of next preventing the release of concentrated volumes of alpha emitters when the fire reaches West Lake has diminished to unacceptable levels, as the Regional Office has acquiesced to the PRP's slow walking preparatory site investigations over 9 months as it became inescapable that the barrier trench between the low level wastes that remain in West Lake and the fire have spread too widely to locate a clean corridor. No one in charge will want to be associated with the impending catastrophe on their watch, if nothing is done.

Our strong recommendation is that this issue be bumped upstairs for higher level evaluation and direction at the earliest possible time.

Peter Anderson

Peter Anderson, Executive Director CENTER for a COMPETITIVE WASTE INDUSTRY 313 Price Place | Suite 14 | Madison, WI 53705 (608) 231-1100 | Facsimile (608) 233-0011 | Cell (608) 444-2817 email anderson@competitivewaste.org | skype anderson.recycle

From: Peter Anderson [mailto:anderson@recycleworlds.net]

Sent: Friday, March 21, 2014 6:52 PM

To: 'chris.koster@ago.mo.gov'

Cc: 'mogov@mail.mo.gov'; 'brooks.karl@epa.gov'; 'christopher.hall@usace.army.mil'

Subject: Report on West Lake-Bridgeton Landfill Fire - Cover Transmittal Letter and Report

Attorney General Koster:

Please find enclosed our attached 3 page transmittal letter and 73 page technical report concerning the West Lake-Bridgeton Landfill fire.

We hope that you will find the report useful in your decisions. If you have any questions, do not hesitate to write or call.

Peter Anderson

Peter Anderson, Executive Director CENTER for a COMPETITIVE WASTE INDUSTRY 313 Price Place | Suite 14 | Madison, WI 53705 (608) 231-1100 | Facsimile (608) 233-0011 | Cell (608) 444-2817 email anderson@competitivewaste.org | skype anderson.recycle



West Lake Landfill Radiological Survey May 16, 2013



Hazardous Waste Program Federal Facilities Section May 2013



West Lake Landfill Radiological Survey May 16, 2013

Section 1: Site History

The West Lake Landfill site is on a parcel of approximately 200 acres in Bridgeton, Missouri. The site consists of the Bridgeton Sanitary Landfill, which stopped receiving waste on Dec. 31, 2004, and several old inactive areas with municipal solid waste and demolition debris. The site is divided into two Operable Units, or OUs. OU-1 consists of radiological areas and OU-2 consists of the other landfill areas, which did not receive any radiologically contaminated soil. In 1990, West Lake Landfill was listed on the National Priorities List making it a Superfund site. In May 2008 a Record of Decision was signed for OU-1, which describes the Selected Remedy to contain the radiological contamination using a modified solid waste landfill cover. The Selected Remedy is currently under review by EPA, which is the lead agency for OU-1 portion of this site.

Bridgeton Sanitary Landfill, is currently owned by Bridgeton Landfill LLC, and is a subsidiary of Republic Services Inc. The landfill waste mass encompasses approximately 52 acres with approximately 240 feet below the ground's surface and a total waste thickness of 320 feet. The waste is located in two distinct areas known as the North and South Quarries. Bridgeton was initially permitted on Nov. 18, 1985, and ceased accepting waste on Dec. 31, 2004. See Bridgeton Landfill map at the link below.

http://www.dnr.mo.gov/env/swmp/facilities/documents/bridgetonmap17x22.pdf

On Dec. 23, 2010, Bridgeton/Republic reported the Bridgeton Sanitary Landfill was experiencing elevated temperatures on some gas extraction wells. The facility began testing landfill gas from the gas extraction system and found elevated hydrogen and carbon monoxide and reduced methane concentrations, which is indicative of a subsurface smoldering event. Since then the department has required Bridgeton/Republic to conduct various mitigation activities.

Section 2: Gamma Radiation Survey

Introduction: On May 16, 2013, Missouri Department of Natural Resources, Hazardous Waste Program, Federal Facilities Section staff visited the West Lake Landfill to collect gamma radiation measurements using readily available field screening equipment. Measurements were collected in upwind and downwind directions for comparison. This survey may be used to supplement ongoing data collection by the Department's Environmental Emergency Response, or EER, Section utilizing AreaRAE equipment and previous radiological data collected by the Department of Health and Senior Services, DHSS.

http://www.dnr.mo.gov/env/swmp/facilities/BridgetonSanitaryLandfill-AirSampling.htm

Additional testing with conventional air sampling equipment and other methods may be warranted to further assess site conditions.

Objective: The objective of this survey was to collect radiological readings upwind and downwind from the site using odor as an indication of downwind direction. The upwind and downwind readings were compared for differences in radiological readings.

Observations and Discussion: Wind direction was sporadic during the initial data collection but became predominantly to the northerly direction as the day progressed. Wind direction is recorded near the site by the department's meteorological station. See Section 5, Photo #3.

http://www.dnr.mo.gov/env/swmp/facilities/BridgetonSanitaryLandfill-AirSampling.htm

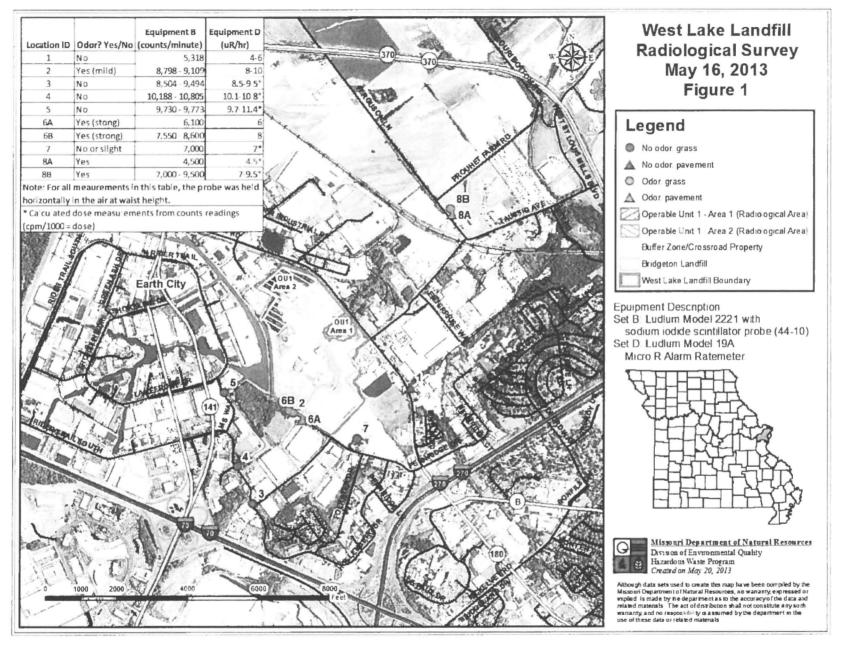
Radiological data collection was limited to equipment available at the time of the survey (see Section 4: Equipment Description). Radiological readings can differ significantly when on paved, gravel, or soil surfaces, and can also vary with terrain. Higher readings can be obtained in topographic depressions due to increased ground surface area exposure to the detector. To collect representative information, measurements are collected over an extended period of time to get an average result, rather than relying on instantaneous readings. Instruments using different detection technologies, each to better serve a particular intended use, have different sensitivities and response times.

Presentation of Results: Table 1 and Figure 1 below summarize the upwind and downwind readings collected during this survey. Dose rate measurements were estimated by dividing the counts per minute by one thousand. This is based on the operators experience with this specific set of instruments.

Conclusion: Measurements collected from the downwind location were consistent with measurements collected at the upwind, or background, locations. These observations are consistent with EER AreaRAE data and DHSS's assessment of their previously collected radiological data. They are also consistent with background readings collected using the same equipment in the St Louis area. As stated in the previous section, readings varied based on surface type. The readings from the downwind locations, 8A and 8B, were approximately two-fold different, being pavement vs. grass.

Location ID	Time (approx.)	Surface type	Observed Wind		Equipment B (counts/minute)	Equipment C
1	1500	pavement	Northeast	No	5,318	
2	1510	grass, adjoining gravel road	South	Yes (mild)	8,798 - 9,109	
3	1535	grass, adjoining paved road	Northeast	No	8,504 - 9,494	
4	1545	grass	Southeast	No	10,188 - 10,805	10.1-10.8
5	1600	grass	East	No	9,730 - 9,773	9.7-11.4
6A	1630	pavement/gravel	South	Yes (strong)	6,100	(
6B	1630	grass	South	Yes (strong)	7,550 - 8,600	8
7	1730	grass	South	No or slight	7,000	7*
8A	1830	pavement	South	Yes	4,500	4.5
8B	1830	grass island	South	Yes	7,000 - 9,500	7-9.5
		nts in this table, the probe wa with Equipment B were taker	and the second of the second o	· ·- · · · · · · · · · · · · · · · · ·	aist height.	

* Calculated dose measurements from counts readings (cpm/1000 = dose).



Section 3: Radiological Activity on Dust Swipe Samples, Alpha and Beta+Gamma

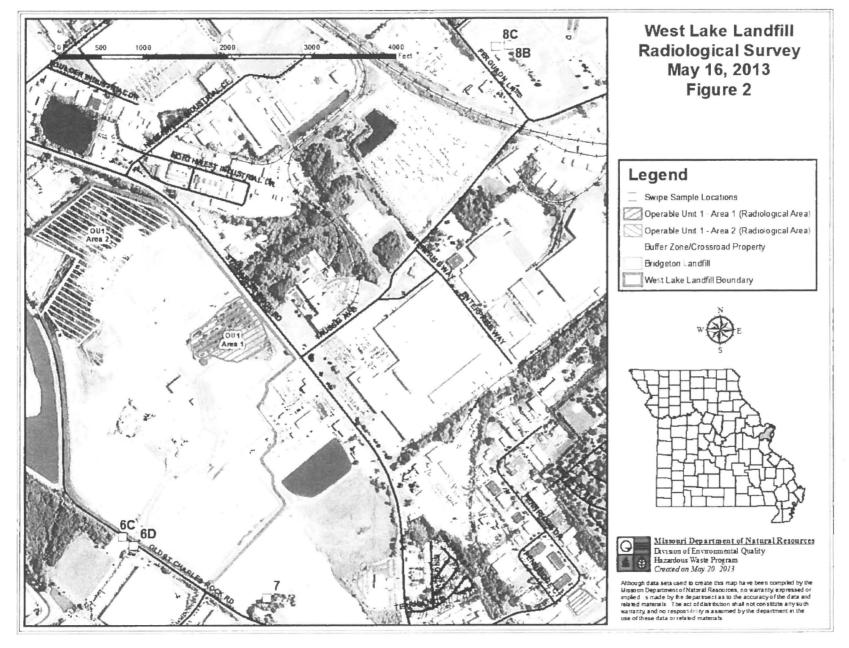
Introduction: Staff also collected dust swipe samples at two locations at the perimeter of the site. These locations were selected since they typically have high odor and may contain dust originating from the site. The first was adjacent to the leachate pumping station southwest of the landfill and the second was a private residence, Turner property, south of the site. Included below are field instrument surveys and benchtop readings of dust swipes. Benchtop readings were collected with a Ludlum model 2929 scalar ratemeter with 43-10-1 detector that was designed for these samples. It is noted that EER has gamma monitors, namely AreaRAE equipment, stationed at these locations. Please see Section 5, photo #4.

Objective: The objective of this portion of the visit was to collect deposition dust samples to measure radiological activity—in the predominant wind direction and in the downwind location at the time of sampling. The dust samples were collected with cloth swipes and analyzed for alpha decay as well as beta and gamma combined decay.

Presentation of Results: Table 2 and Figure 2 below summarize the dust swipe samples collected during this survey.

Table 2: Equipment E, Swipe Sample Results (1 minute duration)								
Location ID	Suface type	Odor? Yes/No	aipha (cpm)	beta and gamma (cpm)				
Pre use Cs-137								
response check	QA/QC check	NA	0	21,294				
Empty	Background empty sample	NA	1	48				
6C (swipe 1)	Inside of metal pipe	Yes (strong)	0	44				
	Area surrounding the supports for the life station where DNR							
6D (swipe 2)_	AreaRAE is located	Yes (strong)	1	47				
7 (swipe 3)	Picnic table where DNR AreaRAE is located	No or slight	0	43				
7 (swipe 4)	Picnic table where DNR AreaRAE is located	No or slight	0	40				
8B (swipe 5)	Underside of decorative rock	Yes	О	34				
	Barren soil adjoining parking							
8C (swipe 6)	lot	Yes	o	30				
Post use Cs-137								
response check	QA/QC check	NA	0	20,779				

Conclusion: Results from dust swipe samples collected near the site were consistent with background readings of the empty instrument tray.



Page 6

Section 4: Equipment Description

- Equipment B: Ludlum model 2221 with 44-10 sodium iodide [NaI] probe. The meter has both digital and analog scales, is able to provide both instantaneous rates and accumulative counts over a user set time, and has field adjustable voltage settings to give the user some flexibility in selection of probes and focusing on feedback at different energy levels to help evaluate readings. The 44-10 probe is a gamma scintillator. This combination of meter and probe is favored for searching for radiological contamination because of its sensitivity, fast response to activity fluctuations and flexibility in settings to help in discerning results. We would typically read the meter as an instantaneous rate when looking for hotspots, primarily focused on listening to audio feedback changes; then switch to an accumulative count when getting fluctuations in readings and wishing to better evaluate what is being detected. We typically do a 1 minute count, but can do a much longer time if needed and divided by the number a minutes. Typical background readings are 4 to 5 significant digits, depending upon material, for counts per minute, or cpm. A rough estimate of a comparable uR/hr reading can be obtained by dividing the results by 1,000.
- Equipment D: Ludlum model 19A uR meter. This meter with built in detector has a fixed analog scale and can only give feedback as a rate in uR/hr. It is meant to give fast and easy dose estimates in areas of low activity levels and to provide an alarm as activity begins to approach a preset action level. The instrument needle is constantly moving in response to activity such that visual precision is several uR/hr. Results are most easily presented as a range.
- Equipment E: Ludlum model 2929 with 43-10-1 swipe counter. This is a bench top meter
 and probe designed for counting swipe samples. These samples are small cloth patches
 used to retrieve dust. Readings are in cpm for alpha and combined beta+gamma.
 Background readings are typically 3 cpm or less for alpha, and 50 to 60 cpm or less for
 beta, depending upon location.

Section 5: Photographic Log

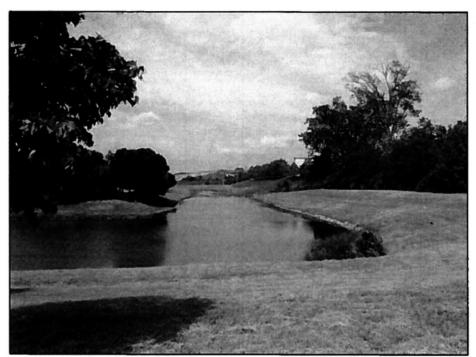


Photo 1: Location #4 looking Northeast toward landfill.

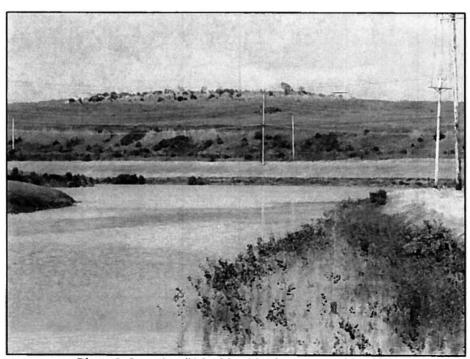


Photo 2: Location #5 looking Northeast toward landfill.

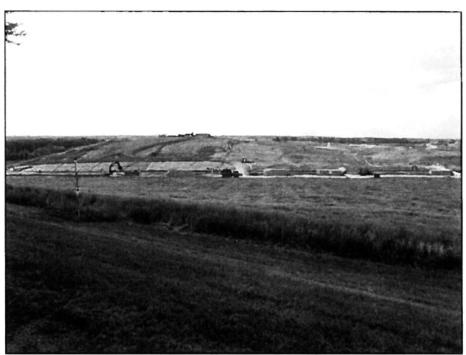


Photo 3: Location #7, Turner property, looking North toward landfill. Note the meteorological station in left foreground.



Photo 4: View of AreaRAE equipment at Location #7, Turner property. Swipe samples #3 and #4 collected at this location.